Lindsay A. Baxter
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April 28, 2022

VIA ELECTRONIC FILING

Ms. Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
2nd Floor, Room-N201
400 North Street
Harrisburg, PA 17120

Re: Duquesne Light Company 2021 Annual Electric Reliability Report
Docket No. M-2016-2522508

Dear Secretary Chiavetta:

Please find enclosed for filing Duquesne Light Company's 2021 Annual Electric Reliability Report.

Upon receipt, if you have any questions regarding the information contained in this filing, please contact me at 412-393-6224.

Sincerely,

Lindsay A. Baxter
Manager, Regulatory and Clean Energy Strategy

Enclosure
Cc (w/ enc.):
Bureau of Technical Utility Services (dsearfoorc@pa.gov, jvanzant@pa.gov)
Office of Consumer Advocate (pcicero@paoca.org)
Office of Small Business Advocate (sgray@pa.gov, swebb@pa.gov)

2021 Annual Electric Reliability Report

to the

Pennsylvania Public Utility Commission

Duquesne Light Company
411 Seventh Avenue
Pittsburgh, PA 15219

April 28, 2022

DUQUESNE LIGHT COMPANY
ANNUAL ELECTRIC RELIABILITY REPORT

Filed April 28, 2022

52 Pa Code §57.195 Reporting Requirements

(a)(2) The name, title, telephone number and e-mail address of the persons who have knowledge of the matters, and can respond to inquiries.

Matthew Thimons – General Manager, Asset Management
(412) 393-8639, mthimons@duqlight.com

Jason Keller – Director, Operations Center
(412) 393-2897, jkeller@duqlight.com

(b)(1) An overall current assessment of the state of the system reliability in the electric distribution company's service territory including a discussion of the electric distribution company's current programs and procedures for providing reliable electric service.

Duquesne Light Company's ("Duquesne Light" or "the Company") service territory covers approximately 817 square miles, with a well-developed distribution system throughout. Electric service reliability remains very consistent across the service territory. The combination of an effective outage restoration process and significant distribution automation allows the Company to quickly restore power to large numbers of customers in outage situations.

Achieving outstanding performance in system reliability continues to be one of Duquesne Light's most important long-term objectives. The Asset Management and System Planning Groups perform ongoing analysis of reliability indices, root cause analysis of outages, and tracking and monitoring of other performance measures to identify improvement opportunities and optimize reliability. This long-term process includes making recommendations for capital projects such as circuit rehabilitation, new substations, and distribution circuits. It also includes implementation of new advanced protection and coordination schemes on the distribution system that better localize customer outages and reduce momentary outages.

Duquesne Light continues its Emergent Work Process, which is used to identify problems, set priorities, and resolve reliability issues as quickly as possible. Each day, field personnel perform field inspections and any abnormalities are logged into a database. This database is reviewed regularly and any high priority problems are identified and a course of action is determined. Analysis at the device level is used to identify small areas where customers have experienced multiple outages. Assessing only system level or even circuit level data may mask these isolated problems.

Scheduled preventative and predictive maintenance activities continue to reduce the potential for future service interruptions. Corrective maintenance is prioritized with the objective to reduce backlog in the most cost-efficient manner.

Several capital budget projects in 2021 targeted distribution reliability improvements, including pole replacement, substation rehabilitation, circuit load relief and voltage improvement, URD rehabilitation, circuit rearrangement, and installation of additional automated remotely controlled pole top devices.

Specific programs, procedures, and ongoing maintenance activities that support Duquesne Light's commitment to service reliability include:

- A Distribution Overhead Line Inspection Program, which includes infrared inspections, that systematically identifies circuit problems for remedial action in advance of failure.

- Vegetation Management Maintenance Programs with the goal of reducing tree and branch failures through proactive pruning and removal to manage proper clearances. Duquesne Light believes that this program will help reduce the frequency of outages by addressing targeted tree failure conditions that typically result in physical damage to our facilities.

- An all pulse-reclosing protection technology has been implemented on some 23kV circuits. This technology eliminates traditional "hard reclosing," thereby making it easier and faster to conduct repairs and restore circuits to normal operation, enabling customers to be restored more quickly. This technology also reduces stress and damage on the entire circuit since the breaker is no longer required to trip, also contributing to the reduction in momentary outages to customers.

- Line maintenance work of various types is regularly performed in order to maintain distribution plant. This work includes replacement of cross arms, arrestors, insulators, and other equipment on the overhead system as well as inspections and remedial work on the underground system.

- Storm Preparedness Training is conducted each year and Storm Review Meetings are held following major events. These meetings focus on the successes and challenges of the most recent emergency service restoration effort. Service restoration process improvements are made as needed to improve response time and effectiveness during the next restoration effort.

Finally, the Company continues to implement its Long-Term Infrastructure Improvement Plan (LTIIP) approved April 20, 2017[1] to accelerate its infrastructure program.

[1] Petition of Duquesne Light Company for Approval of Its Long-Term Infrastructure Improvement Plan for period January 1, 2017 through December 31, 2022, Docket No. P-2016-2540046.

(b)(2) A description of each major event that occurred during the year being reported on, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted in order to avoid or minimize the impact of similar events in the future.

No major events occurred during 2021.

(b)(3) A table showing the actual values of each of the reliability indices (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the electric distribution company's service territory for each of the preceding 3 calendar years. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer minutes interruptions, the number of customers affected, and the minutes of interruption. If MAIFI values are provided, the number of customer momentary interruptions shall also be reported.

RELIABILITY BENCHMARKS AND STANDARDS
Duquesne Light Company
System Performance Measures with Major Events Excluded

	SAIDI	SAIFI	CAIDI	MAIFI
2019	106	1.01	106	*
2020	111	0.84	132	*
2021	172	0.93	186	*
3 Year Average	130	0.93	141	*
Benchmark	126	1.17	108	*
12 Month Standard	182	1.40	130	*

* Sufficient information to calculate MAIFI is unavailable.

Duquesne Light has been a strong performer in reliability over the past 15 years. The Company's success in this area can be at least partially attributed to the wide deployment of intelligent devices on the system that can quickly isolate a fault to the least number of customers.

Through 2021, Duquesne Light's CAIDI was above both the benchmark and the 12-month standard, SAIFI performance was below both the benchmark and standard, and SAIDI was below the standard. The increase in CAIDI was primarily attributable to weather impacts. Over the past decade, increases have been observed in the average, minimum, and maximum temperature; wind speed; total inches of precipitation; and the number of days with precipitation. Storm wind speeds have increased over the past decade by approximately 20 mph in both sustained and gust wind speeds: approximately 15 mph to both categories, in the past two years. During the trailing 12 months, Duquesne Light has had multiple reported storms impacting our system. Five of those storms affected over 40,000 customers, with the largest storm having over 51,000 customers impacted which is just below the threshold for an excludable event (10% of customers or approximately 60,000 customers).[2]

The table below lists a change that was made to outage data subsequent to the 2021 3rd and 4th Quarter Reports that were previously submitted to the Commission. This change is the result of improved data accuracy governance that has been put in place at Duquesne Light. As a result of this change, 2021 SAIDI decreased from 173 to 172 minutes and CAIDI decreased from 187 to 186 minutes.

Incident #	Date	New Values		Original Values		Difference	
		kVA	kVA-Min	kVA	kVA-Min	kVA	kVA-Min
2154356	8/29/21	3,972	210,516	3,972	5,930,196	0	-5,719,680

Formulas Used in Calculating the Indices

$$\text{SAIFI} = \frac{\text{(Total kVA interrupted) - (kVA impact of major events)}}{\text{System Connected kVA}}$$

$$\text{SAIDI} = \frac{\text{(Total kVA-minutes interrupted) - (kVA-minute impact of major events)}}{\text{System Connected kVA}}$$

$$\text{CAIDI} = \text{SAIDI/SAIFI}$$

[2] See Docket No. M-2021-3023564, Outage Reports to inform the Commission of utility service outages per 52 Pa. Code § 67.1.

Data used in calculating the indices

2021

Total kVA Interrupted for the Period:	7,289,927 kVA
Total kVA -Minutes Interrupted:	1,355,553,008 kVA -Minutes
System Connected Load as of 12/31/21	7,869,335 kVA

2020

Total kVA Interrupted for the Period: (excludes the 4/8/20 Major Event that is listed below)	6,493,374 kVA
Total kVA -Minutes Interrupted: (excludes the 4/8/20 Major Event that is listed below)	857,480,616 kVA -Minutes
System Connected Load as of 12/31/20	7,722,291 kVA
April 8, 2020 Major Event	772,911 kVA (10% of System Load) 302,912,154 kVA -Minutes

2019

Total kVA Interrupted for the Period: (excluding 2/24/19 Major Event)	7,296,110 kVA
Total kVA -Minutes Interrupted: (excluding 2/24/19 Major Event)	772,081,564 kVA -Minutes
System Connected Load as of 12/31/19:	7,259,129 kVA
February 24, 2019 Major Event:	1,682,200 kVA (23% of System Load) 784,246,585 kVA -Minutes

(b)(4) A breakdown and analysis of outage causes during the year being reported on, including the number and percentage of service outages and customer interruption minutes categorized by outage cause such as equipment failure, animal contact, tree related, and so forth. Proposed solutions to identified service problems shall be reported.

January 1, 2021 through December 31, 2021
No Major Event Exclusions

CAUSE	NO. OF OUTAGES	OUTAGE PERCENTAGE	kVA TOTAL	kVA PERCENTAGE	kVA-MINUTE TOTAL	kVA-MINUTE PERCENTAGE
Storms	556	17%	1,326,525	18%	342,234,195	25%
Trees (Inside ROW)	205	6%	402.047	6%	106,456,732	8%
Trees (Outside ROW)	1,064	32%	2,229,391	31%	507,309,391	37%
Equipment Failures	674	20%	1,671,589	23%	248,525,102	18%
Overloads	58	1%	34,765	<1%	2,346,153	<1%
Vehicles	180	5%	581,170	8%	73,087,162	6%
Contact/Dig In	36	1%	108,868	1%	7,550,938	1%
Animal Contact	129	4%	183,697	3%	12,947,333	1%
Unknown	334	10%	530,993	7%	33,609,887	2%
Other	121	4%	220,882	3%	21,486,115	2%
TOTALS	**3,357**	**100%**	**7,289,927**	**100%**	**1,355,553,008**	**100%**

(b)(5) A list of remedial efforts taken to date and planned for circuits that have been on the worst performing 5% of circuits list for a year or more.

Duquesne Light has five circuits that have been on the worst performing 5% of circuits list for four consecutive quarters. The majority of these circuits have received remedial actions or are scheduled for maintenance activities in 2022 that are expected to improve their reliability. The Company will continue to monitor these circuits closely during 2022 to verify that the remedial actions taken have been successful and that reliability has improved. Many of the circuits have already shown improvement as indicated in the following detailed descriptions.

Duquesne uses a sophisticated automated protection system on its 23kV circuits, which utilizes numerous 3-phase sectionalizers and reclosers on the main feeders and as ties to adjacent circuits. This automation technology with remote control generally allows circuit problems to be isolated and rerouted in less than five minutes. Generally, only a small portion of the customers on a worst performing circuit experience reliability issues.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
1 23610 Findlay Breaker	1 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by storms.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2021. Proposed for 2026.
2 23705 North Fuse Link	3 Total Outage(s) Fourth Quarter Outage(s): • One outage was by an unknown cause. Previous Outage(s): • One outage was by an unknown cause. • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • The Company plans to update the coordination of protective devices. • The Company plans to perform reliability enhancements, such as additional lateral fusing. • Vegetation Management completed Q4 2021. Proposed for 2025.
3 23921 Logans Ferry Recloser	2 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by high winds. Previous Outage(s): • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2018 and all high priority repairs completed. • Vegetation Management completed Q4 2020. Proposed for 2024.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
4 23707 North Breaker	2 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by equipment failure. Previous Outage(s): • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2019 and all high priority repairs completed. • The Company completed updating the coordination of protective devices, such as fuses, in the first half of 2021. • The Company plans to perform reliability enhancements, such as pole replacement and conductor upgrades. • Vegetation Management completed Q3 2017. Proposed for 2022.
5 23743 Oakland Recloser	4 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by equipment failure. Previous Outage(s): • Two outages were caused by tree fall-in Outside ROW. • One outage was caused by contact with vehicle.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • The Company plans to update the coordination of protective devices including fuses. • The Company plans to perform reliability enhancements, such as installing protective device upgrades. • Vegetation Management completed Q2 2020. Proposed for 2024.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
6 23701 North Fuse Link	2 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was by an unknown cause. • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Vegetation Management completed Q4 2021. Proposed for 2025.
7 23868 Wildwood Fuse Link	6 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Three outages were by unknown causes. • Two outages were caused by high winds. • One outage was caused by a storm.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2019 and all high priority repairs completed. • Vegetation Management completed Q4 2020. Proposed for 2024.
8 23614 Findlay Fuse Link	2 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by animal contact. • One outage was caused by equipment failure.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2019 and all high priority repairs completed. • Vegetation Management completed Q2 2021. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
9 23706 North Fuse Link	4 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Three outages were caused by tree fall-in Outside ROW. • One outage was by an unknown cause.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • The Company plans to update the coordination of protective devices including fuses. • The Company plans to perform reliability enhancements, such as installing a new circuit tie. • Vegetation Management completed Q3 2018. Proposed for 2022.
10 23700 North Fuse Link	3 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Two outages were caused by tree fall-in Outside ROW. • One outage was caused by equipment failure.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • The Company plans to perform reliability enhancements, such as installing new switching devices. • Vegetation Management completed Q3 2017. Proposed for 2022.
11 23816 Bellevue Fuse Link	1 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by tree fall-in Outside ROW. Previous Outage(s): • No outage(s).	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Vegetation Management completed Q2 2017. Proposed for 2023.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
12 23841 Arsenal Fuse Link	2 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by tree fall-in Outside ROW. • One outage was caused by a storm.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • The Company plans to update the coordination of protective devices including fuses. • The Company plans to perform reliability enhancements, such as installing new switching devices. • Vegetation Management completed Q4 2018. Proposed for 2022.
13 23869 Wildwood Breaker	4 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Three outages were caused by tree fall-in Outside ROW. • One outage was caused by contact with vehicle.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Vegetation Management completed Q4 2020. Proposed for 2024.
14 23745 Oakland Fuse Link	1 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by equipment failure. Previous Outage(s): • No outage(s).	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • The Company completed updating the coordination of protective devices, such as fuses, in the first half of 2021. • Vegetation Management completed Q3 2020. Proposed for 2024.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
15 23750 Dravosburg Fuse Link	3 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Two outages were by unknown causes. • One outage was caused by high winds.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Vegetation Management completed Q4 2018. Proposed for 2022.
16 23802 Elwyn Breaker	1 Total Outage(s) Fourth Quarter Outage(s): • One outage was by an unknown cause. Previous Outage(s): • No outage(s).	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2019 and all high priority repairs completed. • The Company completed updating the coordination of protective devices, such as fuses, in the first half of 2021. • The Company plans to perform reliability enhancements, such as installing a new circuit tie. • Vegetation Management completed Q1 2021. Proposed for 2025.
17 23709 North Fuse Link	2 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by tree fall-in Outside ROW. Previous Outage(s): • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • The Company plans to update the coordination of protective devices including fuses. • Vegetation Management completed Q3 2017. Proposed for 2022.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
18 23860 Wilson Breaker	1 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by tree fall-in Inside ROW.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2019 and all high priority repairs completed. • The Company plans to update the coordination of protective devices including fuses. • The Company plans to perform reliability enhancements, such as installing new switching devices. • Vegetation Management completed Q4 2018. Proposed for 2022.
19 4107 Wilkinsburg Breaker	3 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by tree fall-in Inside ROW. • One outage was caused by a storm. • One outage was caused by equipment failure.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • The Company plans to perform reliability enhancements, such as installing a new circuit tie. • Vegetation Management completed Q4 2021. Proposed for 2025.
20 22177 Universal-Wilkinsburg No.4 Breaker	4 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by tree fall-in Outside ROW. Previous Outage(s): • Two outages were caused by tree fall-in Inside ROW. • One outage was caused by a storm.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Vegetation Management completed partial circuit in Q2 2021. Proposed for 2022. *(Circuit is comprised of five segments.)*

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
21 23822 Highland Sectionalizer	2 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by contact with vehicle. Previous Outage(s): • One outage was caused by contact with vehicle.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Vegetation Management completed Q4 2020. Proposed for 2025.
22 23661 Crescent Fuse Link	3 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Two outages were by unknown causes. • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2018 and all high priority repairs completed. • Vegetation Management completed Q3 2020. Proposed for 2026.
23 22869 Midland-Cooks Ferry Fuse Link	5 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Two outages were caused by tree fall-in Outside ROW. • One outage was by an unknown cause. • One outage was caused by outside contractor work. • One outage was caused by contact with vehicle.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2019 and all high priority repairs completed. • The Company plans to perform reliability enhancements, such as installing a new circuit tie. • Vegetation Management completed Q2 2018. Proposed for 2022.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
24 23821 Highland Fuse Link	1 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by equipment failure.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2018 and all high priority repairs completed. • Vegetation Management completed Q4 2021. Proposed for 2025.
25 23690 Brunot Island Breaker	5 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Three outages were caused by equipment failure. • Two outages were by unknown causes.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2018 and all high priority repairs completed. • Vegetation Management completed Q3 2018. Proposed for 2022.
26 23708 North Recloser	3 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by tree fall-in Outside ROW. Previous Outage(s): • One outage was caused by equipment failure. • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Vegetation Management completed Q1 2018. Proposed for 2023.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
27 22358 Carnegie-Calgon Recloser	1 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by contact with vehicle.	• Permanent repairs were made following each outage as necessary. • The Company will continue to monitor this circuit for reliability issues. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • The Company plans to update the coordination of protective devices including fuses. • The Company plans to perform reliability enhancements, such as installing new switching devices. • Vegetation Management completed Q3 2021. Proposed for 2026.

(b)(6) A comparison of established transmission and distribution inspection and maintenance goals/objectives versus actual results achieved during the year being reported on. Explanations of any variances shall be included.

2021 Transmission and Distribution Goals and Objectives

Program Project	**Unit of Measurement**	**Target for 2021**	**Year End Actuals for 2021**	**Percent Complete**
Communications Goals				
Communication Battery Maintenance	Batteries	108	108	100%
Overhead Distribution Goals				
Recloser Inspections	Circuits	121	125	103%
Pole Inspections	Poles	17,677	17,773	101%
OH Line Inspections	Circuits	121	125	103%
OH Transformer Inspections	Circuits	121	125	103%
Padmount & Below Grade Insp	Circuits	76	80	105%
Overhead Transmission Goals				
Helicopter Inspections[3]	Circuits	11	15	136%
Ground Inspections	Number of Structures	354	459	130%
Substations Goals				
Circuit Breaker Maintenance	Breakers	375	370	99%
Station Transformer Maintenance	Transformers	44	48	109%
Station Battery Maintenance	Batteries	880	874	99%
Station Relay Maintenance	Relays	1,634	1,565	96%
Station Inspections	Sites	1,860	1,860	100%
Underground Distribution Goals				
Manhole Inspections	Manholes	700	771	110%
Major Network Insp (Prot Relay)	Ntwk Protectors	92	103	112%
Minor Network Visual Inspection (Transformer/Protector/Vault)	Ntwk Transformers	576	623	108%
Underground Transmission Goals				
Pressurization and Cathodic Protection Plant Inspection	Work Orders	372	389	105%
Vegetation Management Goals				
Overhead Line Clearance	Circuit Overhead Miles	1,300	1,302	100%

[3] Inspections are selected on a circuit basis; the selected circuits accounted for a higher overall circuit count in 2021 than projected.

(b)(7) A comparison of budgeted versus actual transmission and distribution operation and maintenance expenses for the year being reported on. Explanations of any variances shall be included.

Budget Variance Recap – O&M Expenses
For the Twelve Months Ending December 31, 2021
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	$59,031,382	$62,305,046	$3,273,664
Human Resources	$17,153,916	$19,070,371	$1,916,455
Operations/Operation Services	$53,114,818	$52,914,626	$(200,192)
Technology	$53,371,438	$47,218,483	$(6,152,955)
General Corporate*	$65,066,576	$67,836,943	$2,770,367
Total	**$247,738,130**	**$249,345,469**	**$1,607,339**

* Includes Finance, Office of General Counsel, and Senior Management Costs

The O&M expense underspend for the twelve months ended December 31, 2021, is attributable to lower bad debt expense (Customer Service), lower medical expenses and 401k expenses (Human Resources), and ancillary transmission spend (General Corporate), partially offset by higher support costs related to system implementations (Information Technology).

(b)(8) A comparison of budgeted versus actual transmission and distribution capital expenditures for the year being reported on. Explanations of any variances shall be included.

Budget Variance Recap – Capital
For the Twelve Months Ending December 31, 2021
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	$8,182,032	$11,034,238	$2,852,206
Human Resources	$15,042,537	$14,379,031	$(663,506)
Operations/Operation Services	$253,942,171	$301,970,427	$48,028,256
Technology	$30,830,017	$40,096,396	$9,266,379
General Corporate*	$65,936,128	$56,463,159	$(9,472,969)
Total	**$373,932,885**	**$423,943,251**	**$50,010,366**

* Includes Finance, Office of General Counsel, and Senior Management Costs

The capital expense underspend for the twelve months ended December 31, 2021, is attributable to lower than budgeted capital expenditures associated with delays in large transmission and distribution projects (Operations) and miscellaneous IT projects (Information Technology), partially offset by professional services fees and storm restoration activity (General Corporate).

(b)(9) Quantified transmission and distribution inspection and maintenance goals/objectives for the current calendar year detailed by system area (i.e., transmission, substation, and distribution).

2022 Transmission and Distribution Goals and Objectives

Program Project	**Unit of Measurement**	**Target for Year 2022**
Communications Goals		
Communication Battery Maintenance	Batteries	128
Overhead Distribution Goals		
Recloser Inspections	Circuits	131
Pole Inspections	Poles	17,814
OH Line Inspections	Circuits	131
OH Transformer Inspections	Circuits	131
Padmount & Below Grade Insp	Circuits	80
Overhead Transmission Goals		
Helicopter Inspections	Circuits	11
Ground Inspections	Number of Structures	347
Substations Goals		
Circuit Breaker Maintenance	Breakers	387
Station Transformer Maintenance	Transformers	49
Station Battery Maintenance	Batteries	860
Station Relay Maintenance	Relays	1,537
Station Inspections	Sites	1,896
Underground Distribution Goals		
Manhole Inspections	Manholes	700
Major Network Insp (Prot Relay)	Network Protectors	92
Minor Network Visual Inspection (Transformer/Protector/Vault)	Network Transformers	576
Underground Transmission Goals		
Pressurization and Cathodic Protection Plant Inspection	Work Orders	424
Vegetation Management Goals		
Overhead Line Clearance	Circuit Overhead Miles	1,300

(b)(10) Budgeted transmission and distribution operation and maintenance expenses for the current year in total and detailed by EDC functional account.

	Total Budget
Customer Service	$67,012,825
Human Resources	$20,193,114
Operations/ Operation Services	$71,796,849
Technology	$51,012,132
General Corporate*	$59,514,565
Total	**$269,529,485**

*Includes Finance, Office of General Counsel, and Senior Management Costs

(b)(11) Budgeted transmission and distribution capital expenditures for the current year in total and detailed by EDC functional account.

	Total Budget
Customer Service	$8,857,864
Human Resources	$14,993,070
Operations/ Operation Services	$323,409,946
Technology	$49,350,844
General Corporate*	$30,297,088
Total	**$426,908,812**

*Includes Finance, Office of General Counsel, and Senior Management Costs

(b)(12) Significant changes, if any, to the transmission and distribution inspection and maintenance programs previously submitted to the Commission.

Duquesne Light has not made any significant changes to its transmission and distribution inspection and maintenance programs.